Appl. No. 09/944,049 Amdt. dated January 27, 2004 Response to Notice of Allowance October 29, 2003

PATENT

Amendments to the Drawings:

The attached sheets of drawings include changes to Figs. 1A, 1B, Fig. 2 (both pages), and Figs. 3-7. These sheets, which include Figs. 1A, 1B, 2A-2C, 3, 4A and 4B, and 5-7 replace the original sheets including Figs. 1A, 1B, Fig. 2 (both pages), and Figs. 3-7.

Attachment: Replacement Sheets



```
VHLE
        1 ATGACACCGACGACGACGCGCGGAACTCACG
                                                  33
VHL
         ACGGAGTTTGACTACGACGATGAAGCGACTCCC
                                                  66
VHLE
         TGTGTCCTCACCGACGTGCTTAATCAGTCGAAG
                                                  99
VHLE
         CCAGTCACGTTGTTTCTGTACGGCGTTGTCTTT
       100
                                                 132
VHL/E
       133 CTCTTCGGTTCCATCGGCAACTTCTTGGTGATC
                                                 165
VHL/E
         TTCACCATCACCTGGCGACGTCGGATTCAATGT
                                                 198
VHL/E
         TCCGGCGATGTTTACTTTATCAACCTCGCGGCC
                                                 231
VHLVE
      232 GCCGATTTGCTTTTCGTTTGTACACTACCTCTG
                                                 264
VHL/E
      265
         TGGATGCAATACCTCCTAGATCACAACTCCCTA
                                                 297
VHL/E
         GCCAGCGTGCCGTGTACGTTACTCACTGCCTGT
      298
                                                 330
VHL/E
         TTCTACGTGGCTATGTTTGCCAGTTTGTGTTTT
      331
                                                 363
VHL/E
         ATCACGGAGATTGCACTCGATCGCTACTACGCT
                                                 396
VHL/E
         ATTGTTTACATGAGATATCGGCCTGTAAAACAG
                                                 429
VHL/E
         GCCTGCCTTTTCAGTATTTTTTTGGTGGATCTTT
                                                 462
VHL/E
         GCCGTGATCATCGCCATTCCACACTTTATGGTG
                                                 495
VHL/E
         GTGACCAAAAAAGACAATCAATGTATGACCGAC
                                                 528
VHL/E
         TACGACTACTTAGAGGTCAGTTACCCGATCATC
      529
                                                 561
VHL/E
         CTCAACGTAGAACTCATGCTCGGTGCTTTCGTG
                                                 594
         ATCCCGCTCAGTGTCATCAGCTACTGCTACTAC
VHIJE
                                                 627
VHL/E
         CGCATTTCCAGAATCGTTGCGGTGTCTCAGTCG
                                                 660
VHL/E
         CGCCACAAAGGCCGCATTGTACGGGTACTTATA
      661
                                                 693
VHL/E
         GCGGTCGTGCTTGTCTTTATCATCTTTTGGCTG
      694
                                                 726
VHL/E
         CCGTACCACCTGACGCTGTTTGTGGACACGTTG
      727
                                                 759
VHL/E
         AAACTGCTCAAATGGATCTCCAGCAGCTGCGAG
                                                 792
VHL/E
         TTCGAAAAATCACTCAAGCGCGCGCTCATCTTG
                                                 825
VHL/E
         ACCGAGTCACTCGCCTTTTGTCACTGTTGTCTC
      826
                                                 858
         AATCCGCTGCTGTACGTCTTCGTGGGCACCAAG
VHL/E
                                                 891
VHL/E
         TTTCGGCAAGAACTGCACTGTCTGCTGGCCGAG
                                                 924
VHL/E
         TTTCGCCAGCGACTGTTTTCCCGCGATGTATCC
      925
                                                 957
VHL/E
         TGGTACCACAGCATGAGCTTTTCGCGTCGGAGC
                                                 990
VHL
         TCGCCGAGCCGAAGAGAGACGTCTTCCGACACG
                                                 1023
         CTGTCCGACGAGGCGTGTCGCGTCTCACAAATT
VHL/E
                                                 1056
VHL/E
         ATACCGTAA
      1057
                                                 1065
```

Replacement Sheet



VHL/E	1	MTPTTTTAELTTEFDYDDEATPCVLTDVLNQSK	33
VHL/E	34	<u>PVTLF</u> LYGVVFLFGSIGNFLVIFTITWRRRIQC	66
VHL/E	- 67	SGDVYFINLAAADLLFVCTLPLWMQYLLDHNSL	.99
VHL/E	100	ASVPCTLLTACFYVAMFASLCFITEIALDRYYA	132
VHL/E	133	IVYMRYRPVKQACLFSIFWWIFAVIIAIPHFMV	165
VHL/E	166	VTKKDNQCMTDYDYLEVSYPIILNVELMLGAFV	198
VHL/E	199	IPLSVISYCYYRISRIVAVSQSRHKGRIVRVLI	231
VHL/E	232	AVVLVFIIFWLPYHLTLFVDTLKLLKWISSSCE	264
VHL/E	265	FEKSLKRALILTESLAFCHCCLNPLLYVFVGTK	297
VHL/E	298	FRQELHCLLAEFRQRLFSRDVSWYHSMSFSRRS	330
VHL/E	331	SPSRRETSSDTLSDEACRVSQIIP	354



human US28 1 MTPTT 5	
rhesus US28.1 1 M 1	
rhesus US28.2 1 MTNA 4	
rhesus US28.3 1 MTNT	
rhesus US28.4 1 M 0	
rhesus US28.5 1 MTTTT MS AT TNSSTTPQASST TMTTKTSTPGN 32	
human US28 6 TTAELTT 12	
rhesus US28.1 2 1	
rhesus US28.2 5 4	
rhesus US28.3 5 4	
rhesus US28.4 1 0	
rhesus US28.583 TTTGTTSTLTTISTTSNATSIT SNLSTTGNQT 64	
human US28 13 12	
rhesus US28.1 2 NNT 4	
rhesus US28.2 5 GH - 6	
rhesus US28.3 5 NNT 7	
rhesus US28.4 1 NSSQHNISV FLSIGA 15	
rhesus US28.5 65 ATTNATTFS STLTTSTNISST FSTVSTVASNA 96	
human US28 13 12	
rhesus US28.1 5 S C N F 8	
rhesus US28.2 7 - C H 9	
rhesus US28.3 8 T C H L 11	
rhesus US28.4 16	
rhesus US28.5 97 TCNSTITTN ITTAFTTAANTT ASSLTSIVTSL 128	8
human US28 13 EF DYDEDATPCVFT DV L NQSKPVTL 37	
rhesus US28.1 9 N V T L NA S A P S R Y I A I 23	
rhesus US28.2 10 NESLASYGIAPAATI 24	
rhesus US28.3 12 NGTFET FK ITRPVAI 26	
rhesus US28.4 22 21	
rhesus US28.5129 ATTIETT SF DYDESAEACNLT DIVHTTRS VTV 160	D



```
human US28
              FLYGVVFLFGSIGNF -
rhesus US28.1 24
             AMYSIVICIGLVGNLLLCIVLVK - KRKLRYSS
                                                              54
rhesus US28.2 25
              T|LYSIA|G|ICGVTGNL|L|ILLVLFT|-|RR|IHW|F
                                                              55
              SAYTVLVVIGLLGNI|V|LLSVLVV|-K|R|K|L|K|F
rhesus US28.3 27
                                                              57
               - YTCVFLFGILGHFYLYWKNHQRRHRTNS
rhesus US28.4 22
                                                              51
              TFYTIIFILGLLGNF|-|LVLMTIIW/NRRISIF/M/V|
rhesus US28.5 61
                                                              191
human US28 69
              DVYFINLAAADLLFVCTLPLWMQYLLDHNSLA
                                                              100
              D V Y F F H A S M A D L V S T V M L P L W L H Y V L N F A Q
rhesus US28.1 55
                                                              86
              DIYTLNMIFTDFLVFITLPAWVTYLLNYTQLS
rhesus US28.2 56.
                                                              87
              DIYFFNASLADVFAVCMLPAWVNYALDSTQ
rhesus US28.3 58
                                                              89
              DVLFRHLMITEEVFTLTIPVWAYHLTTHGN
rhesus US28.4 52
                                                              83
rhesus US28.5192
              |EIYFVNLAISDLMFVCTLPFWI|M|YL
                                                              223
human US28 101
             SVPCTLLTACFYVAMFASLCFITEIALDRY
                                                              132
rhesus US28.1 87
              RIGACISFSVTFYVPLFVQAWLLISIAMER
                                                              117
rhesus US28.2 88
              HYACIALSF V FYVS I FIQAD F MVAVA I ER
                                                              118
              K| FSCITFTFGFYVSLFI|QAWMLI|L|VTLER
rhesus US28.3 90
                                                              120
             GSWCRSLTFVFYLTVFA|RAFFYL|L|LIWDR|-
rhesus US28.4 84
                                                              114
rhesus US28.5 24
              H<u>ASCVA</u>MTA<u>IFYCALFAST</u>V F L L L
                                                              255
human US28 133
                 YMRYRPVKQ-----ACL FS
                                                              157
rhesus US28.1118
              NIL VWMAPISIVK - - - TAFKHCIGT
                                                              143
              SIL VKNKPLISIVK - - - KASVISCACII - - - | WIIVII
rhesus US28.2119
                                                              144
              SILVWIAPITIRINI---KAIANCVLIF
rhesus US28.3<sub>121</sub>
                                                              146
rhesus US28.4115
              V I I CR|HPLPV|N|LNYSQVI|G|---|L|S|VW|--|LVAV
                                                              141
rhesus US28.5256
              I L LGTEKAN RRLLRNAVSGCM LM
                                                              284
human US28 158
                                                              186
rhesus US28.1144
              VAISIPMYAYRNSHIDEHEICHLGNIYTIWHIINEIPLIHIT
                                                              175
                      MFR SQHEMNSICI ILGNIYTWHMNS PIF RIT
rhesus US28.2145
                                                              176
rhesus US28,3147
                        FIRNEISNEHQCIIMRNIYITIWSIVIGEITWI
                                                              178
rhesus US28.4142
              LSASPFSIFNG-SVKQCI-LGNMG-SIPSESSA
                                                              170
              LALPHFIFMKK-GTNVC-VAE YEPGL
rhesus US28.5285
                                                              314
```



```
human US28 187 | L NVEL MLGAFVIPLSVISYC YYRISRIVAVS
rhesus US28.1176 | C M|DMV|I I VWT F LAPV L V T | I | I A S V | K | M |- | R | R | T T WG
                                                                  206
rhesus US28.2177 |T M|D|||S|I |N|I WS FVVPAVTTLL I A|R|R I Y|V - |C T SG|
                                                                  207
rhesus US28.3179 A L DFLITLITFIMPVTIVLAL SFK MARWSTFG
                                                                  210
Thesus US28.4171 V L N L EV H L C S F WL P L I I M SANC YYQAKRRA S P D
                                                                  202
rhesus US28.5245 F I NTEV|N|LCTLVLPAAAI|I|YWYL
human US28 219 |QS|-|RHKGRIV|R|VLIAVVLVFI
rhesus US28.1207 NT-RLNEKNSDILIVLVVMTVF FWGPFNIVLV
                                                                  237
rhesus US28.2208 NK - KMNARA SIGLLEAMV I SMLF FGGILFNLNIF
                                                                  238
rhesus US28.3211 YR - NLT|SRT S|L|ILILILT VAAG FWGP|F|HL|F|MF
                                                                  241
rhesus US28.4203 Q - - LHELYRCSLLITIITTYAIVWF PFHLALL
                                                                  232
rhesus US28.5347 ERLRHRLTSLNIVLAVVIVFAL FWLPYNLML M
human US28 250 V D T LIKILI - ILIK WI SSSCEFERSLIKIRALILTESLA
                                                                  280
rhesus US28.1238 | I DINIILQRIYIY DITI-ITINICDVEIKIK HIIMAMISEA IV
                                                                  268
rhesus US28.2239 RD - IVSDTS E DNKDCTYLKQE HFIRMVGVALV
                                                                  269
rhesus US28.3242 | I ENMAGQIIY HIIQKDCWYLQDR HLCSLMTETLV
                                                                  273
rhesus US28.4233 | I D A L I S - I S H V E P S S A L H WA
                                                                  261
rhesus US28.5379 MYSUVH - MQ - I PWECS SEKILIRRS LIITES IA
human US28 281 F C H C C L N P L L Y V F V G T K F R Q E L H C L L A E F R Q R 312
rhesus US28.1269 Y|F|R|GITAPIIYVG| SGRFREE I|Y|SLF|RRQPYN
rhesus US28.2270 YGRAIFNPF MYMCVSTRLRQE IKCLFMRTPYE
                                                                  301
rhesus US28.3274 | F L R SVF NPY I YMI I S Y K F RQ Q V R S L L K R T Q Y D
                                                                  305
rhesus US28.4262 F VYAGISPL VYFTCCPTVRE LLMSURPFFT-
                                                                  292
rhesus US28.5409 L S HCC I N P I I Y L L F G P R C R S E
human US28 313 L F SIRIDV S W- - YIHISMS F SIRRISS PSIRRIETSS DTL
                                                                  342
rhesus US28.1301 DILIDPIDAIN - -
                             - - - QIFIMI I E L TISIQIGIR SIRINRNAIR QIS
                                                                  327
rhesus US28.2302 |T L|DAEHA
                                - KILIMIVIN L KNR NAIN VPDIPIK
                                                                  325
rhesus US28.3306 |A_L|DTTQ|L
                                - AET MQLKAK GVPVSDPA
                                                                  329
                       - WI SISKITRRGIYAPIKITQPLNIPDEPI
rhesus US28.4293
rhesus US28.5441 L - CPHRS WS SIRAET VSI SL
human US28 343 S D E V CR V S Q I I P
                                                                  354
rhesus US28.1328 ESNVPQPEECFW
                                                                  339
rhesus US28.2326 - - - - |PR|E|Y|E S|V|L
                                                                  333
rhesus US28.3380 - - - - | P|H D|C|E |C F|L
                                                                  337
rhesus US28.4318 DNKSPHLLN-
                                                                  327
rhesus US28.5472 DNDVHDELQFLII
                                                                  483
```



```
human UL78
           MSPSVEETTSVTESIMFAIVSFKHMGPFEGY
                                                      31
rhesus UL78
                                                      n
          32 SMSADRAASDLLIGMFGSVSLVNLLTLIGCL
human UL78
                                                      62
          1 - MITERVLAGILAGMTAAGSLVIILLAVV - - M
rhesus UL78
                                                      28
human UL78
          63 WVLRVTRP - - PVSVMIFTWNLVLSQFFSILA
rhesus UL78
          29 WLNMLDRAGMPMAVGHYTGNLVLTQVICIFS
                                                      59
human UL78
          92 TMLSKGIMLRGALNLSLCRLVLFVDDVGLYS
                                                      122
            - MLASKII V GMTSAA NMGF CG I V V FILEDT GLY
rhesus UL78
                                                      89
human UL78 123 TALFFLFLILDRLSAISYGRDLWHHE-TREN
                                                       152
rhesus UL78
          90 VTSLLFMFMILDRMAAFLINGRLFWRQQTTKQ
                                                       120
human UL78 153 AGVALYAVAFAWV LSIVAAVPTAATGSL DYR
                                                      183
Thesus UL78 121 NLSTSVYIILFC WVLGMAAAVPNS
                                                       151
human UL78 184 WLGCQIPIQYAAVDLTIKMWFLLGAPMIAVL
                                                      214
rhesus UL78 152 RWERCE I PVSYAAI DMIVKL WFVL LAPVVL I
                                                       182
human UL78 215 ANVVELAYSIDRRDHVWSYVGRVCTFMVTCLM
                                                      245
Thesus UL78 183 MAVIII QSSYHRDRERI WYYARRVFMFYTACF
                                                      213
human UL78 246 LFVPYYCFRV - - - - - LRGV - L QPASAAGTG
                                                      269
Thesus UL78 214 VMMVPYYFVRVMLSDFALVDIKTKTANSDBC
                                                      244
human UL78 270 FGIMDY WELATRTLLT MRLGILPLFIIAFFS
                                                      300
rhesus UL78 245 DSTFLDYLNMFTHVIYSFKLVVFALFIVLFC
                                                      275
human UL78 301 REPTKDLDDSFDYLVERCQQSCHGHFVRRLV
                                                      331
rhesus UL78 276 SINPMETLEECLERADAERQSRSEASQGERR
                                                      306
human UL78 332 QALKRAMYSVELAVCYFSTSVRDVAEAVKKS
                                                      362
rhesus UL78 307 LPINTCCIKLIELIKQYVSTLSKATRDNSGE
                                                      337
human UL78 363 SISIRIC YA DIAIT SIAA VV VTITTIT SIEIK AT LVIEIH AIEIG
                                                      393
rhesus UL78 338 RANL PENAEDII GTT GSDQL PTEVT VT PIN SSA
                                                      368
human UL78 394 MA SEMCPGTT I DVS AESSSVLCTDGENT VAS
                                                      424
rhesus UL78 369 VFSTGGTVSPV
                                                      379
                                                      431
human UL78 425 DATVTAL
```



```
H UL33
HUL33splice
RhUL33
RhUL33splice
          1 MAVTLRGGSPINFKLMIVSHRNRKFHEIRLFQ
                                                      32
H UL33
HUL33splice
                                                      23
RhUL33
                                                      1
RhUL33splice 33
           RSAIRPGGLWKPFFTTERETNSILHINTTCNV
                                                      64
H UL33
          2 TGPLFAIRTTEAVLNTFIIFVGGPLNAIVLIT
                                                      33
HUL33splice
         24
           TGPLFAIRTTEAVLNTFIIFVGGPLNAIVLIT
                                                      55
RhUL33
                                                      1
RhUL33splice 65 TDSLMAAKLGEALVNSALALFGTPLNAIVLVT
                                                      96
H UL33
           QLLTNRVLGYSTPTIYMTNLYSTNFLTLTVLP
                                                      65
HUL33splice
           QLLTNRVLGYSTPTIYMTNLYSTNFLTLTVLP
         56
                                                      87
RhUL33
                        -----TNLYSANFLTLIVLP
                                                      16
RhUL33splice 97
           QLLANRVHGYSTPIIYMTNLYSANFLTLIVLP
                                                      128
H UL33
           PIVLSNOWLLPAGVASCKFLSVIYYSSCTVGF
                                                      97
HUL33splice
           PIVLSNQWLLPAGVASCKFLSVIYYSSCTVGF
                                                      119
RhUL33
           PIVLSNOHLLPASAVTCKFLSLLYYSSCSVGF
         17
                                                      48
RhUL33splice 129
           PIVLS NQH|LLPASAVTCKFLSLLYYSSCSVGF
                                                      160
H UL33
           ATVALIAADRYRVLHKRTYARQSYRSTYMILL
                                                      129
HUL33splice
           ATVALIAADRYRVLHKRTYARQSYRSTYMILL
         120
                                                      151
           ATVALIAADRYRVIHRRTQARQSYRNTYMIVG
RhUL33
                                                      80
RhUL33splice 161 A T VAL I AADRYRV I HRRTQARQSYRNTYM I VG
                                                      192
H UL33
           L TWLAGL I FSVPAAVYTTVVMHHDANDTNNTN
         130
                                                      161
HUL33splice 152
           L'TWLAGL I FSVPAAVYTTVVMHHDANDTNNTN
                                                      183
            LTWLIGLICATPGGVYTTIVAHRDGE--SDAQ
RhUL33
         81
                                                      110
           L TWLIGLICATPGGVYTTIVAHRDGE - - SDAQ
RhUL33splice 193
                                                      222
```



```
H UL33
          162 GHATCVLYFVAEEVHTVLLSWKVLLTMWWGAA
                                                           193
HUL33splice
             |GHATCVLYFVAEEVHTVLLSWKVLLTMVWGAA
                                                           215
RhUL33
             RIHINITCIMHIFAYDEVIY-IVLMVWKLLIVLVWGIV
                                                           141
             RIMNITCIMHIFAYDEVIY-IVLMVWKLLIVLVWGIV
RhUL33splice 223
                                                           253
H UL33
            PVIMMTWFYAFFYSTVQRTSLKQRSRTLTFVS
                                                           225
HUL33splice
         216 PV IMMTWFYAFFYSTVQRTSLKQRSRTLTFVS
                                                           247
RhUL33
          142 PVVMMSWFYAFFYNTVQRTAKKQQ-RTLKFVK
                                                           172
RhUL33splice 254 PVVMMSWFYAFFYNTVQRTAKKQQ-RTLKFVK
                                                           284
H UL33
            VLLISFVALQTPYVSLMIFNSYATTAWPM QCE
                                                           257
HUL33splice 248
             V L L I SF VA L QTPYVS L M I FNSYATTAWPM QCE
                                                           279
RhUL33
            VLLLSFILIQTPYVSIMIFNTYATVGWPMECA
          173
                                                           204
RhUL33splice 285 V L L L S F I I I Q T P Y V S I M I F N T Y A T V G W P M E C A
                                                           316
H UL33
            HLTLRRTIGTLARVVPHLHCLINPILYALLGH
                                                           289
HUL33splice 280 | HLTLRRTIGTLARVVPHLHCLINPILYALLGH
                                                           311
RhUL33
             DIL TIRIRRY IINT FSRLVPNLHCMVNP I LYALMGN
                                                           236
RhUL33splice 317
             DIL TIRIRRV I INTESRL VPNL HCMVNP I LYALMGN
                                                           348
H UL33
            |DFLQRMRQCFRGQLLDRRAFLRSQNNQRATAE
                                                           321
HUL33splice
         312 DFLQRMRQCFRGQLLDRRAFLRSQNNQRATAE
                                                           343
          237 DFVSKVGQCFRGELTNRRTFLRSKQQARNSDD
RhUL33
                                                           258
RhUL33splice 349
            [DFV]SKV|G|QCFRG|E|LT|N|RRTFLRS|K|QQ|A|R|N|S|D|D
                                                           380
H UL33
          322 TNLAAGNNSQSVATSLDTNSKNYNQHAKRSVS
                                                           353
HUL33splice
             TNLAAGNNSQSVATSLDTNSKNYNQHAKRSVS
                                                           375
             VPTIVSQQP-ATPTIIVNKPEKI--NPHVKRGVS
RhUL33
          269
                                                           297
RhUL33splice 381
              |P<u>|TIVSQQP</u>|-<u>|ATPT|I|V|</u>NKPE|K|--|N|P|HVKRGVS
                                                           409
H UL33
            FNFPSGTWKGGQKTASNDTSTKIPHRLSQSHH
                                                           385
HUL33splice
            |FNFPSGTWKGGQKTASNDTSTKIPHRLSQSHH
                                                           407
RhUL33
             FISVSASSELAAIAKKAKDKA-----KRLSMSHQ
                                                           324
RhUL33splice 410
            | FISVSASS|EL|AA|AK|KA|KD|KA|- - - - - K|RLS|MSHQ
                                                           390
H UL33
          386 IN L S GV
                                                           412
HUL33splice
            NLSGV
          408
                                                           329
RhUL33
             NLRLT
                                                           441
RhUL33splice 437 N LRLT
```



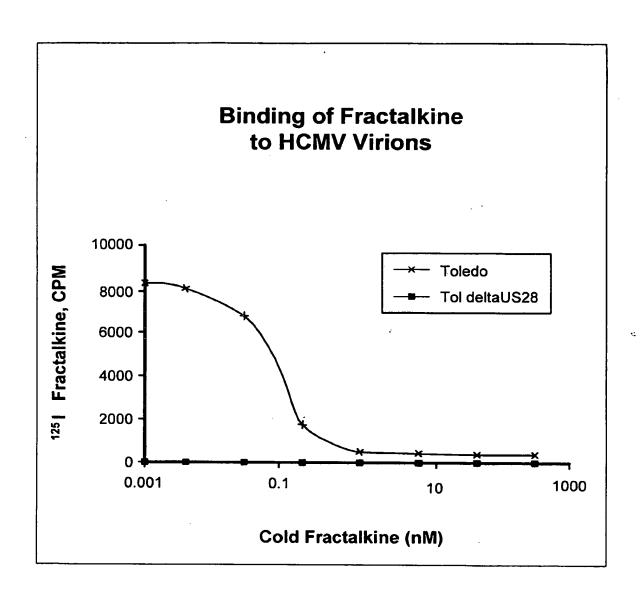


FIG. 5



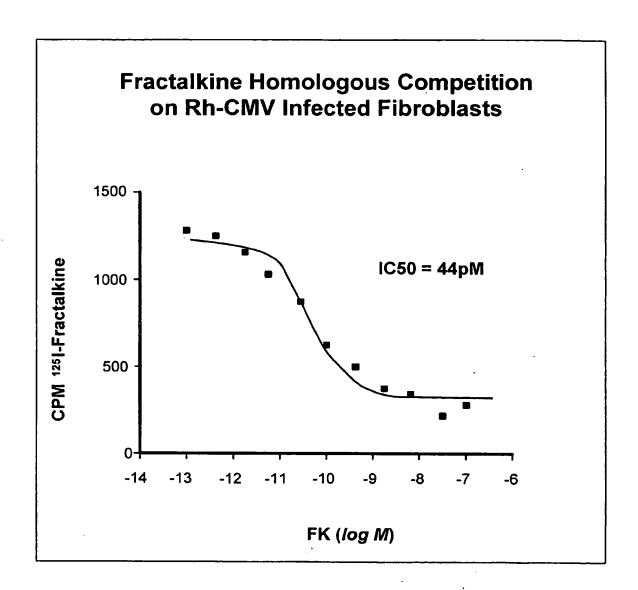


FIG. 6



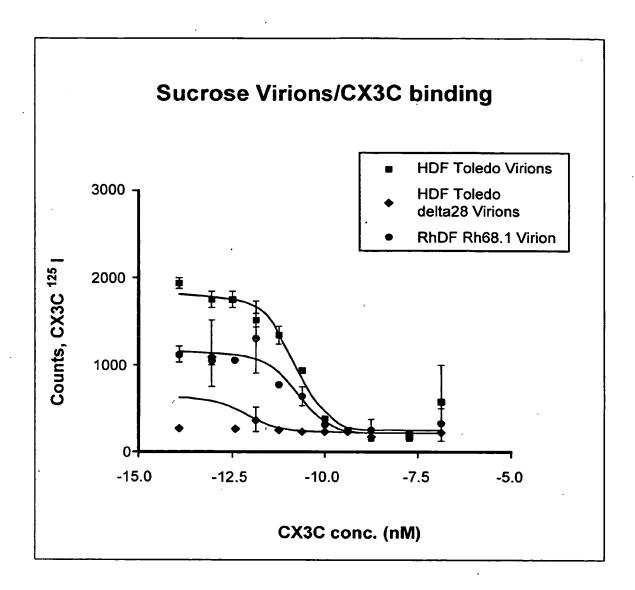


FIG. 7